Figure 1

```
                    ┌─────────────┐
                    │    Start    │
                    └──────┬──────┘
                           ▼
          ┌───────────────────────────────┐
          │      Fabricate SOI Wafer       │╲__46
          └───────────────┬───────────────┘
                          ▼
          ┌───────────────────────────────┐
          │     Etch Insulating Trenches    │╲__48
          └───────────────┬───────────────┘
                          ▼
          ┌───────────────────────────────┐
          │      Fill Insulating Trenches   │╲__50
          └───────────────┬───────────────┘
                          ▼
          ┌───────────────────────────────┐
          │          Remove Mask           │╲__52
          └───────────────┬───────────────┘
                          ▼
          ┌───────────────────────────────┐
          │       Etch Backgate Trench      │╲__54
          └───────────────┬───────────────┘
                          ▼
          ┌───────────────────────────────┐
          │       Fill Backgate Trench      │╲__56
          └───────────────┬───────────────┘
                          ▼
          ┌───────────────────────────────┐
          │            Polish              │╲__58
          └───────────────┬───────────────┘
                          ▼
          ┌───────────────────────────────┐
          │          Etch Channel          │╲__60
          └───────────────┬───────────────┘
                          ▼
          ┌───────────────────────────────┐
          │           Fill Channel         │╲__62
          └───────────────┬───────────────┘
                          ▼
          ┌───────────────────────────────┐
          │            Polish              │╲__64
          └───────────────┬───────────────┘
                          ▼
          ┌───────────────────────────────┐
          │          Light Implant         │╲__66
          └───────────────┬───────────────┘
                          ▼
          ┌───────────────────────────────┐
          │           Form Gate            │╲__67
          └───────────────┬───────────────┘
                          ▼
          ┌───────────────────────────────┐
          │    Implant Source and Drain     │╲__68
          └───────────────┬───────────────┘
                          ▼
          ┌───────────────────────────────┐
          │        Remove Gate Mask         │╲__69
          └───────────────────────────────┘
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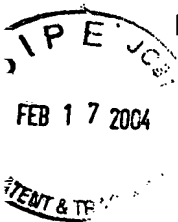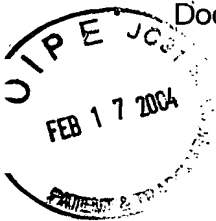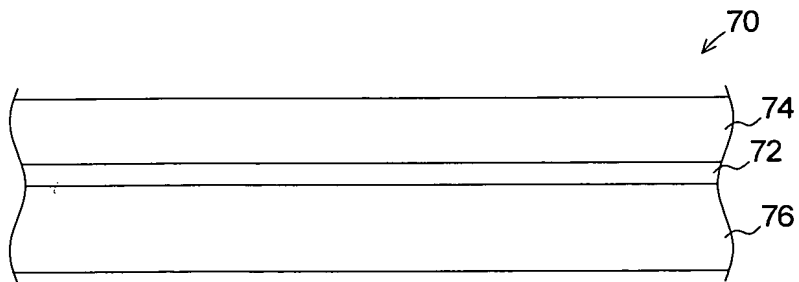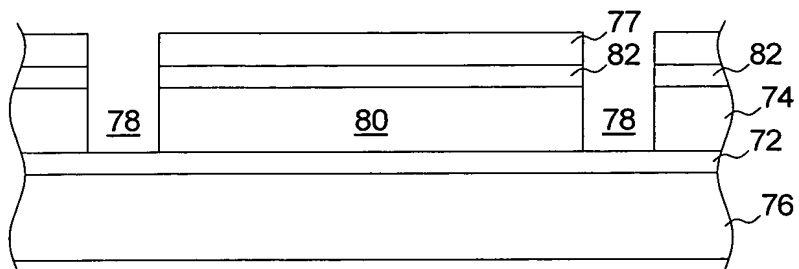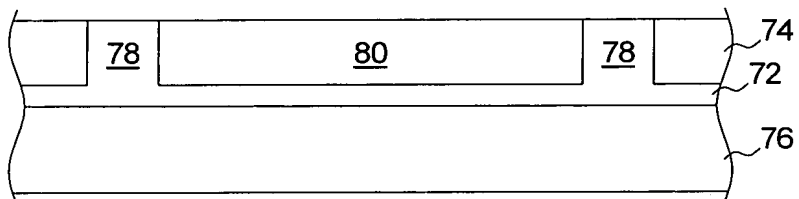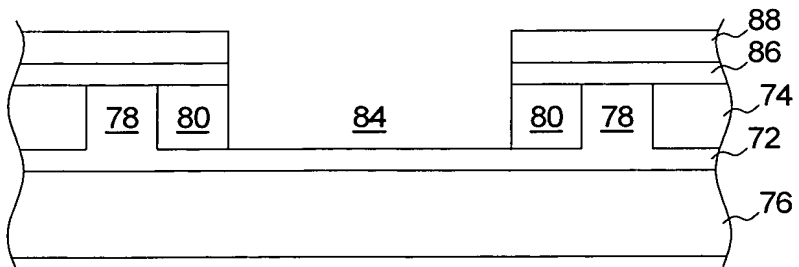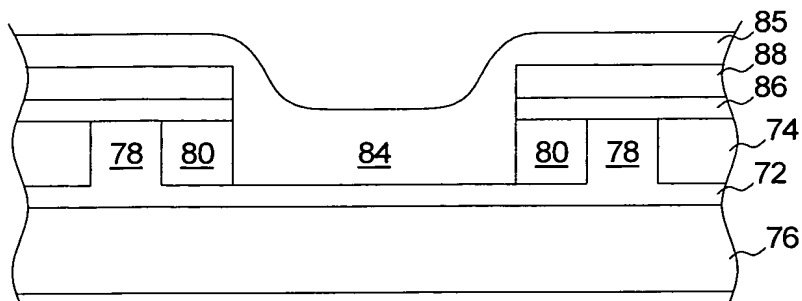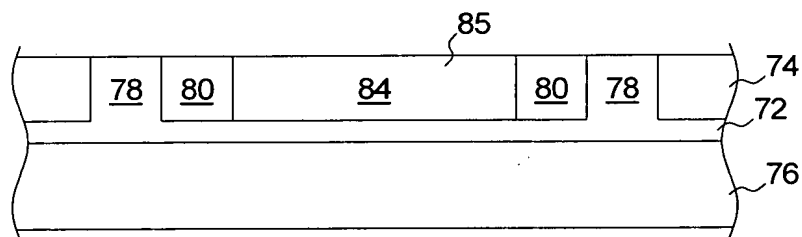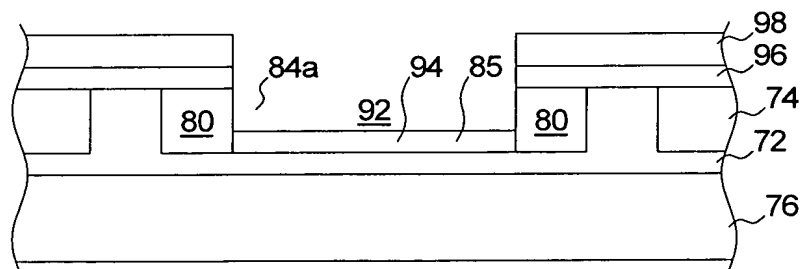
Figure 2

Figure 3a

Figure 3b

Figure 3c

Figure 3d

85
88
86
74
72
76

78 | 80 | 84 | 80 | 78

Figure 3e

85

78 | 80 | 84 | 80 | 78

74
72
76

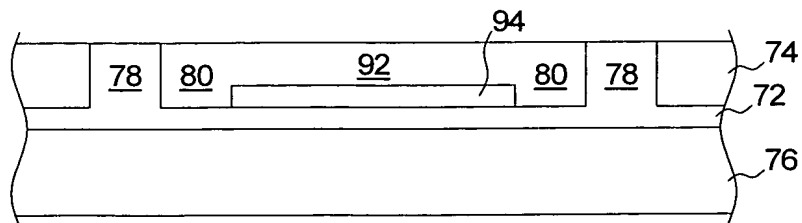**Figure 3f**

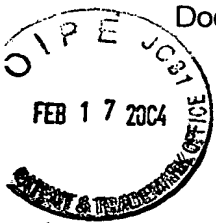98
96
84a | 94 | 85
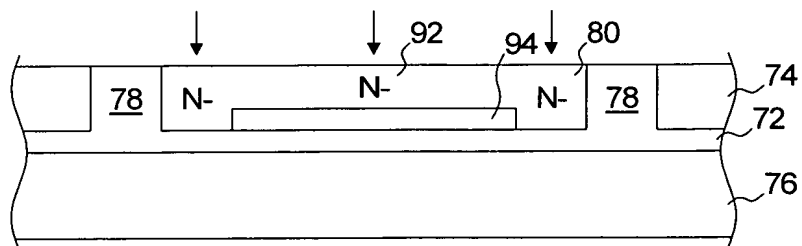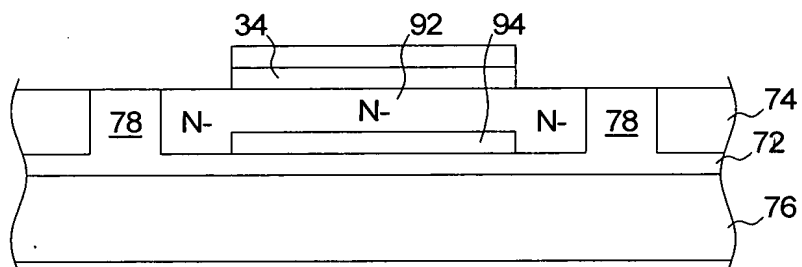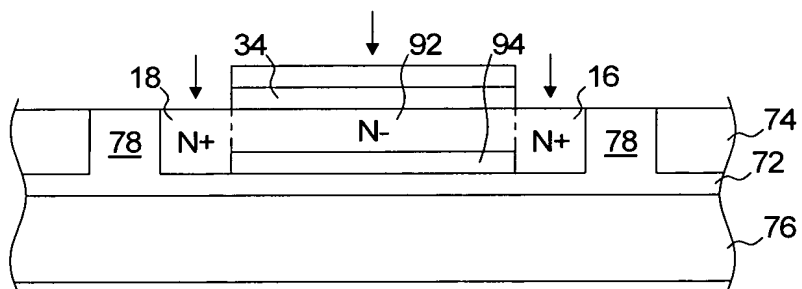80 | 92 | 80
74
72
76

Figure 3g

94
78 | 80 | 92 | 80 | 78
74
72
76

Figure 3h

Figure 3i

Figure 3j

Figure 3k
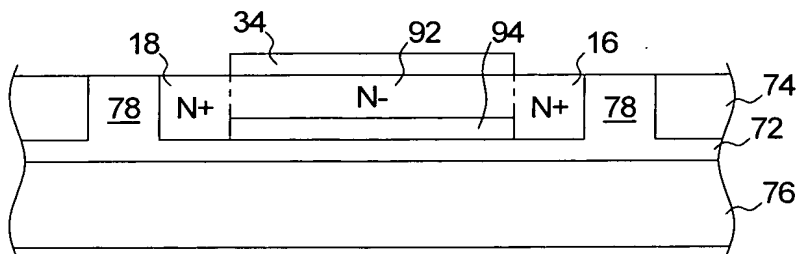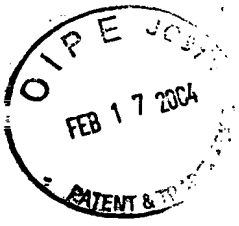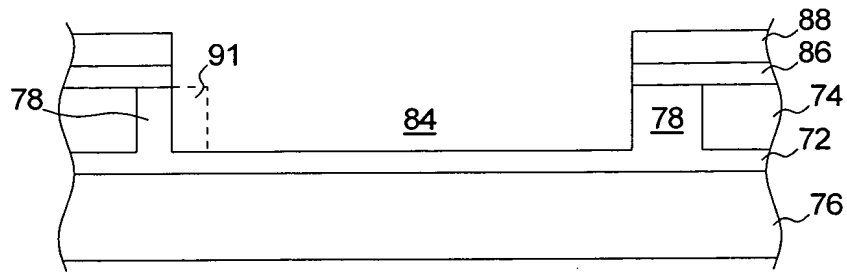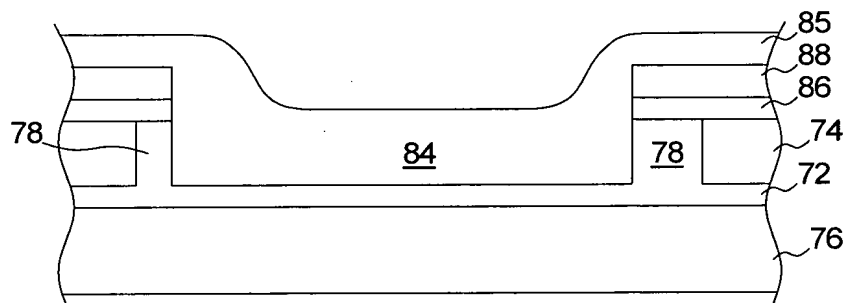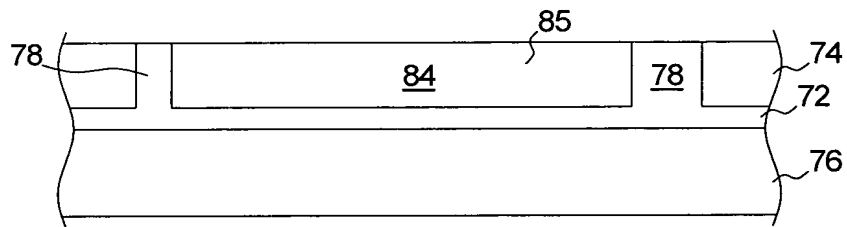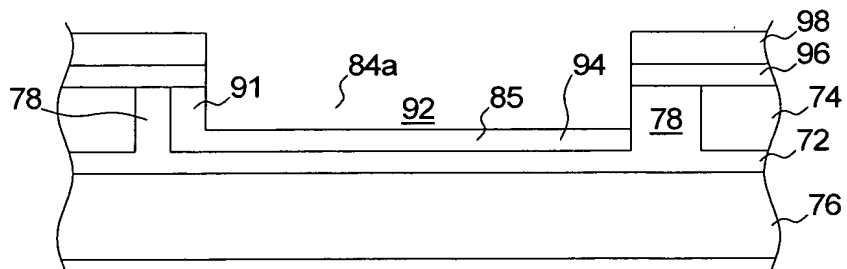
Figure 3l

Figure 4a

Figure 4b

Figure 4c

Figure 4d

Figure 4e

Figure 4f